

Claims

- [c1] An adaptive electrical circuit unit for use in a night viewer system of the type that uses an image intensifier tube and a compatible power source, the invention comprising:
 - a voltage gain detection circuit unit operably connected to the image intensifier tube for detecting multiple selected types of image intensifier tubes and producing an output gain signal appropriate to the detected image intensifier tube for controlling the gain of the detected image intensifier tube.
- [c2] The invention of claim 1 further including a voltage bias circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube for providing a desired voltage gain signal to the image intensifier tube in response to the output gain signal from the voltage gain detection circuit unit.
- [c3] The invention of claim 1 further including a variable resistor circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube for providing a desired voltage level signal to the image intensifier tube.

- [c4] The invention of claim 3 wherein the variable resistor circuit further includes a manual gain adjustment means for manually adjusting the desired voltage level signal to the image intensifier tube by a user.
- [c5] The invention of claim 1 further including an amplifier circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube for providing a desired amplified voltage signal to the image intensifier tube for bias adjustment of the image intensifier tube.
- [c6] The invention of claim 5 further including a current limiting circuit unit for controlling an amount of electrical current of the amplified voltage signal to the image intensifier tube.
- [c7] The invention of claim 5 further including a variable resistor circuit operably connected between the amplifier circuit unit and the voltage gain detection circuit unit for providing a desired voltage level signal to the amplifier circuit unit.
- [c8] The invention of claim 1 further including an amplifier circuit unit operably connected between the variable resistor circuit unit and the image intensifier tube for providing a desired voltage signal to the image intensifier

tube.

- [c9] The invention of claim 1 wherein the power source includes a direct current (DC) to direct current (DC) voltage step-up converter circuit unit for providing a desired power supply voltage signal to the image intensifier tube.
- [c10] The invention of claim 7 wherein the DC to DC voltage step-up converter circuit boosts the voltage of the power source by two times.
- [c11] A method for using multiple image intensifier tube types in a night viewer system of the type that includes a compatible power source, the method comprising the steps of:
 - detecting a specific image intensifier tube type from a multiple selected types of image intensifier tubes using a voltage gain detecting circuit unit operably connected to the image intensifier tube; and,
 - producing an output gain signal appropriate to the detected image intensifier tube for controlling the gain of the detected image intensifier tube.
- [c12] The method of claim 11 further including a voltage bias circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube for

providing a desired voltage gain signal to the image intensifier tube in response to the output gain signal from the voltage gain detection circuit unit.

- [c13] The method of claim 11 further including the step of providing a desired voltage level signal to the image intensifier tube using a variable resistor circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube.
- [c14] The method of claim 13 wherein the variable resistor circuit further includes a manual gain adjustment means for manually adjusting the desired voltage level signal to the image intensifier tube by a user.
- [c15] The method of claim 11 further including the step providing a desired amplified voltage signal to the image intensifier tube for bias adjustment of the image intensifier tube using an amplifier circuit unit operably connected between the voltage gain detection circuit unit and the image intensifier tube.
- [c16] The method of claim 15 wherein the amplifier circuit unit further includes a current limiting circuit unit for controlling an amount of electrical current of the amplified voltage signal to the image intensifier tube.
- [c17] The method of claim 15 further including a variable re-

sistor circuit operably connected between the amplifier circuit unit and the voltage gain detection circuit unit for providing a desired voltage level signal to the amplifier circuit unit.

- [c18] The method of claim 11 further including the step of providing a desired voltage signal to the image intensifier tube using an amplifier circuit unit operably connected between the variable resistor circuit unit and the image intensifier tube.